



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,611	04/15/2004	Feng Ouyang	60707-1730	7525

7590 10/31/2007
Daniel R. McClure
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.
100 Galleria Parkway, Suite 1750
Atlanta, GA 30339

EXAMINER

KANGARLOO, RAMTIN

ART UNIT	PAPER NUMBER
----------	--------------

4177

MAIL DATE	DELIVERY MODE
-----------	---------------

10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/824,611

Applicant(s)

OUYANG ET AL.

Examiner

Ramtin Kangarloo

Art Unit

4177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/15/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 4/15/2004.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson (US Patent No 6263048).

Regarding **Claim 1**, a method for dynamic bin allocation, the method comprising: obtaining link performance data based on a plurality of test transmissions between two network elements (See col. 1, Lines 9-16 and Fig. 3), wherein the plurality of test transmissions utilize at least one transmission mode in each of a plurality of frequency ranges (See col. 2, Lines 58-67); and determining a desired transmission scheme, wherein each of the plurality of frequency ranges is designated for at least one of the at least one transmission mode based at least in part on the link performance data (See col. 2, Lines 58-61 and Col. 4, Lines 45-48 and Col. 7, Lines 4-10).

Regarding **Claim 2**, the method according to claim 1, wherein the link performance data are obtained for each of the plurality of frequency ranges (See col. 12, Lines 18-22); and the desired transmission scheme is determined by

Art Unit: 4177

identifying a desired transmission mode for each of the plurality of frequency ranges based at least in part on the link performance data (See col. 12, Lines 18-33).

Regarding **Claim 3**, the method according to claim 2, wherein the test transmissions are based on the at least one transmission mode (See col. 12, Lines 46-47 and Lines 18-33).

Regarding **Claim 4**, the method according to claim 1, wherein the link performance data are obtained for each of a plurality of predetermined transmission schemes (See col. 2, Lines 32-34); and the desired transmission scheme is selected from the plurality of predetermined transmission schemes based at least in part on the link performance data (See col. 2, Lines 32-46).

Regarding **Claim 5**, the method according to claim 4, wherein the test transmissions are based on the plurality of predetermined transmission schemes (See col. 6, Lines 44-52).

Regarding **Claim 6**, the method according to claim 1 further comprising communicating the desired transmission scheme to at least one of the two network elements and continue communications between the two network elements based on the desired transmission scheme (See col. 2, Lines 37-40).

Regarding **Claim 7**, the method according to claim 1, wherein the plurality of frequency ranges are defined based on a discrete multi-tone (DMT) modulation (See col. 6, Lines 26-29 and Col.7 Lines 34-38).

Regarding **Claim 8**, the method according to claim 1, wherein the plurality of frequency ranges are defined based on an orthogonal frequency division multiplexing (OFDM) technology (See col. 6, Lines 37-41 and Col.7 Lines 34-38).

Regarding **Claim 9**, the method according to claim 1, wherein the link performance data comprise at least one of: a data rate; an error rate (See col. 2, Lines 63-64); a signal-to-interference ratio (See col. 2, Lines 56-57); and a signal-to-noise ratio (See col. 1, Lines 53-57 and Lines 62-65).

Regarding **Claim 10**, the method according to claim 1, wherein the at least one-transmission modes comprises at least one of: a full duplex mode (See col. 8, Lines 34-35); an upstream-only mode; and a downstream-only mode (See col. 8, Lines 34-35 and Col. 2, Lines 37-39).

Regarding **Claim 11**, the method according to claim 1, wherein the test transmissions are performed at a maximum transmission power for each of the plurality of frequency ranges (See col. 7, Lines 34-38).

Art Unit: 4177

Regarding **Claim 12**, the method according to claim 1, wherein the two network elements communicate over a digital subscriber line (DSL) (See col. 7, Lines 34-38).

Regarding **Claim 13**, a system for dynamic bin allocation, the system comprising a first network element and a second network element, wherein each of the first network element and the second network element comprises at least a processor module (See col. 7, Lines 49-50 and Pc analysis 65, See Fig. 5) and a transceiver module (See col. 6, Lines 44-52) that are coordinated to obtain link performance data based on a plurality of test transmissions between the first network element and the second network element (See col. 1, Lines 9-16 and Fig. 3), wherein the plurality of test transmissions utilize at least one transmission mode in each of a plurality of frequency ranges (See col. 2, Lines 58-67); and determine a desired transmission scheme, wherein each of the plurality of frequency ranges is designated for at least one of the at least one transmission mode based at least in part on the link performance data (See col. 2, Lines 58-61 and Col. 4, Lines 45-48 and Col. 7, Lines 4-10).

Regarding **Claim 14**, the system according to claim 13, wherein the link performance data are obtained for each of the plurality of frequency ranges (See col. 12, Lines 18-22); and the desired transmission scheme is determined by identifying a desired transmission mode for each of the plurality of frequency

Art Unit: 4177

ranges based at least in part on the link performance data (See col. 12, Lines 18-33).

Regarding **Claim 15**, the system according to claim 13, wherein the link performance data are obtained for each of a plurality of predetermined transmission schemes (See col. 2, Lines 32-34); and the desired transmission scheme is selected from the plurality of predetermined transmission schemes based at least in part on the link performance data (See col. 2, Lines 32-46).

Regarding **Claim 16**, a system for dynamic bin allocation, the system comprising: means for obtaining link performance databased on a plurality of test transmissions between two network elements (See col. 1, Lines 9-16 and Fig. 3), wherein the plurality of test transmissions utilize at least one transmission mode in each of a plurality of frequency ranges (See col. 2, Lines 58-67); and means for determining a desired transmission scheme, wherein each of the plurality of frequency ranges is designated for at least one of the at least one transmission mode based at least in part on the link performance data(See col. 2, Lines 58-61 and Col. 4, Lines 45-48 and Col. 7, Lines 4-10).

Regarding **Claim 17**, the system according to claim 16, wherein the link performance data are obtained for each of the plurality of frequency ranges (See col. 12, Lines 18-22); and the desired transmission scheme is determined by

Art Unit: 4177

identifying a desired transmission mode for each of the plurality of frequency ranges based at least in part on the link performance data (See col. 12, Lines 18-33).

Regarding **Claim 18**, the system according to claim 16, wherein the link performance data are obtained for each of a plurality of predetermined transmission schemes; and the desired transmission scheme is selected from the plurality of predetermined transmission schemes based at least in part on the link performance data (See col. 2, Lines 32-46).

Regarding **Claim 19**, a computer readable medium having code for causing a processor to perform dynamic bin allocation, the computer readable medium comprising: code adapted to obtain link performance data based on a plurality of test transmissions between the first network element and the second network element, wherein the plurality of test transmissions utilize at least one transmission mode in each of a plurality of frequency ranges (See col. 2, Lines 58-67); and code adapted to determine a desired transmission scheme, wherein each of the plurality of frequency ranges is designated for at least one of the at least one transmission mode based at least in part on the link performance data (See col. 7, Lines 53-63).

Nelson teaches all the limitation in claims 1, 13, and 16. In addition, Nelson teaches Microcontroller 104. It is inherent that microcontroller run a computer program.

Regarding **Claim 20**, the computer readable medium according to claim 19, wherein the link performance data are obtained for each of the plurality of frequency ranges (See col. 12, Lines 18-22); and the desired transmission scheme is determined by identifying a desired transmission mode for each of the plurality of frequency ranges based at least in part on the link performance data (See col. 12, Lines 18-33 and col. 7, Lines 53-63).

Nelson teaches all the limitation in claims 20. In addition, Nelson teaches Microcontroller 104. It is inherent that microcontroller run a computer program

Regarding **Claim 21**, the computer readable medium according to claim 19, wherein the link performance data are obtained for each of a plurality of predetermined transmission schemes (See col. 2, Lines 32-34); and the desired transmission scheme is selected from the plurality of predetermined transmission schemes based at least in part on the link performance data (See col. 2, Lines 32-46 and col. 7, Lines 53-63).

Nelson teaches all the limitation in claims 20. In addition, Nelson teaches Microcontroller 104. It is inherent that microcontroller run a computer program

Conclusion

3. Any response to this Office Action should be **faxed** to (571) 273-8300 or **Mailed**

Art Unit: 4177

to :

Commissioner for Patents,

P.O.Box 1450

Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window

Randolph Building

401 Dulany Street

Alexandria, VA 22314


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramtin Kangarloo whose telephone number is (571) 270-3452. The examiner can normally be reached on Monday to Thursday 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4177

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramtin Kangarloo
Examiner Art Unit 4177
October 18, 2007


BENNY Q. TIEU
SPE/TRAINER